

CLAIMS

1. Process for the preparation of urea granules in a fluid bed granulator comprising at least one inlet for fluidization air, a distribution plate above which the fluid bed is present and sprayers that are mounted in the distribution plate, from which the urea melt is sprayed on or over the urea particles present in the fluid bed, which particles are kept in motion by the fluidization air, characterized in that the fluidization air contains very finely atomized water and in that the urea concentration of the urea melt is higher than 97 wt.%.
- 5 2. Process according to claim 1, characterized in that the fluidization air contains 0.0001-10 wt .% of water relative to the sprayed amount of urea melt.
- 10 3. Process according to claim 1 or 2, characterized in that the water is added to the fluidization air below the distribution plate.
- 15 4. Process according to any one of claims 1-3, characterized in that the water is added to the fluidization air in one or more supply lines for the fluidization air.
5. Process according to any one of claims 1-4, characterized in that the water is added to the fluidization air by atomization from one or more sprayers in the supply line for the fluidization air.
- 20 6. Process according to claim 1 or 2, characterized in that the water is added to the fluidization air at the elevation of the distribution plate or just above the distribution plate.
7. Process according to claim 6, characterized in that the water is added to the fluidization air at 0-50 cm above the distribution plate.
- 25 8. Process according to any one of claims 1-7, characterized in that the maximum droplet size of the atomized water is less than 50 μm .
9. Process according to any one of claims 1-8, characterized in that the urea concentration of the urea melt is higher than 98 wt.%.
10. Process according to any one of claims 1-9, characterized in that the total amount of urea dust in the fluidization air leaving the granulator is less than 2 wt.% of the amount of melt supplied to the granulator.
- 30 11. Granulator for the granulation of urea comprising an inlet for fluidization air, a distribution plate above which the fluid bed is present and sprayers that are mounted in the distribution plate, from which the urea melt is sprayed, characterized in that the granulator comprises sprayers mounted below, in or above the distribution plate from which water is atomized in the fluidization air.
- 35 12. Granulator according to claim 11, characterized in that the sprayers for the

atomizing of water are two-phase sprayers or sonic sprayers.

13. Granulator according to claim 11 or 12, characterized in that the sprayers are mounted in one or more supply lines for the fluidization air.

14. Process for revamping a granulator for the granulation of urea comprising an inlet for fluidization air, a distribution plate above which the fluid bed is present and sprayers that are mounted in the distribution plate, from which the urea melt is sprayed, characterized in that in the granulator sprayers are mounted below, in or above the distribution plate from which water is atomized in the fluidization air.

5 10 15. Process according to claim 14, characterized in that the sprayers for atomizing of water are mounted in one or more supply lines for the fluidization air.